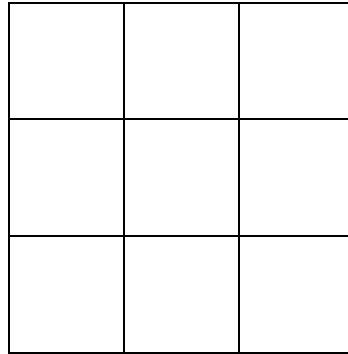


## Lesson 7: Replacing Letters with Numbers

### Classwork

#### Example 1



What is the length of one side of this square?

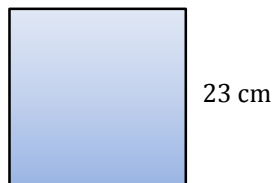
What is the formula for the area of a square?

What is the square's area as a multiplication expression?

What is the square's area?

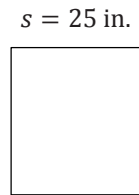
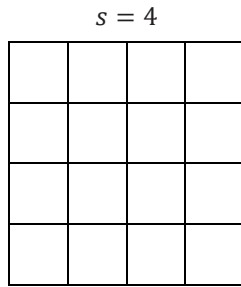
We can count the units. However, look at this other square. Its side length is 23 cm. That is just too many tiny units to draw. What expression can we build to find this square's area?

What is the area of the square? Use a calculator if you need to.



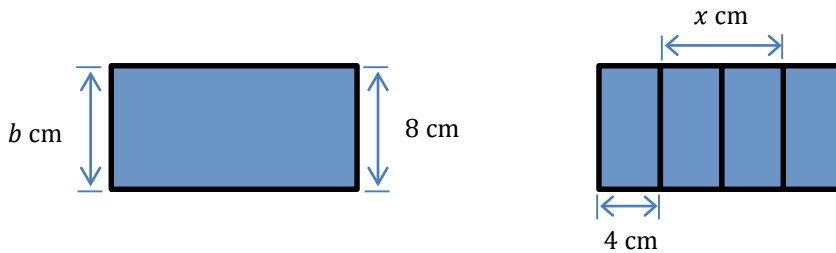
**Exercise 1**

Complete the table below for both squares. Note: These drawings are not to scale.



Length of One Side of the Square	Square's Area Written as an Expression	Square's Area Written as a Number

**Example 2**



What does the letter  $b$  represent in this blue rectangle?

With a partner, answer the following question: Given that the second rectangle is divided into four equal parts, what number does the  $x$  represent?

How did you arrive at this answer?

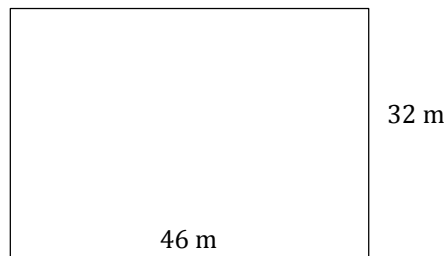
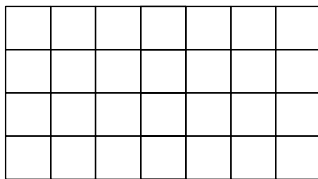
What is the total length of the second rectangle? Tell a partner how you know.

If the two large rectangles have equal lengths and widths, find the area of each rectangle.

Discuss with your partner how the formulas for the area of squares and rectangles can be used to evaluate area for a particular figure.

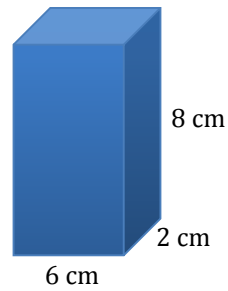
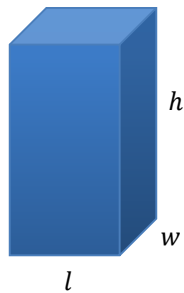
**Exercise 2**

Complete the table below for both rectangles. Note: These drawings are not to scale. Using a calculator is appropriate.



Length of Rectangle	Width of Rectangle	Rectangle's Area Written as an Expression	Rectangle's Area Written as a Number

## Example 3



What does the  $l$  represent in the first diagram?

What does the  $w$  represent in the first diagram?

What does the  $h$  represent in the first diagram?

Since we know the formula to find the volume is  $V = l \times w \times h$ , what number can we substitute for the  $l$  in the formula? Why?

What other number can we substitute for the  $l$ ?

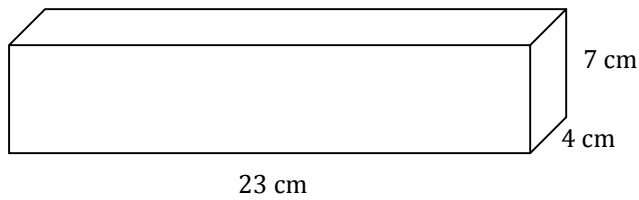
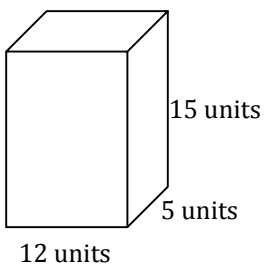
What number can we substitute for the  $w$  in the formula? Why?

What number can we substitute for the  $h$  in the formula?

Determine the volume of the second right rectangular prism by substituting the letters in the formula with their appropriate numbers.

**Exercise 3**

Complete the table for both figures. Using a calculator is appropriate.



Length of Rectangular Prism	Width of Rectangular Prism	Height of Rectangular Prism	Rectangular Prism's Volume Written as an Expression	Rectangular Prism's Volume Written as a Number